A large, stylized graphic on the left side of the banner, identical to the one in the logo, consisting of three overlapping, curved shapes in brown, olive green, and grey.

# Indonesia's Next World Class Mining Company

## Tujuh Bukit Oxide Heap Leach Project Update

March 2016

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## PT Merdeka Copper Gold - Tujuh Bukit Project Resources

H & S Consultants Pty Ltd: The information in this document that relates to Mineral Resources at Tujuh Bukit Project is based on information compiled by Mr Robert Spiers of H & S Consultants Pty Ltd, who is a full time employee in the mining industry and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves, “The JORC Code”.

## PT Merdeka Copper Gold - Tujuh Bukit Project Reserves

CSA Global Pty Ltd: The information in this document that relates to Mineral Reserves at Tujuh Bukit Project is based on information compiled by Ms Joan Bath of CSA Global Pty Ltd, who is a full time employee in the mining industry and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves, “The JORC Code”.

# Preamble

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PT Merdeka Copper Gold Tbk. is pleased to provide an update of the Tujuh Bukit Oxide Heap Leach Project (the Project), currently under construction in Banyuwangi, East Java, Indonesia.

This update contains key information drawn from the initial Definitive Feasibility Study (DFS, 2014) and subsequent Optimisation Study Updates (2015) as well as a description of current Project progress.

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# Key Findings of The Project Studies

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- Project is based on a well-defined JORC 2012 compliant Mineral Resource estimated to contain 2.2 million ounces of gold and 74 million ounces of silver
- Ore Reserve totals 36 million tonnes of ore from 5 open pits at average grades of 0.91g/t gold and 21g/t silver\*
- Mine life of over 9 years producing approximately 840 thousand ounces of gold and 2.7 million ounces of silver
- First quartile cash operating costs of \$457per ounce (after silver credits) driven by a low strip ratio (0.6:1), robust recoveries (79% life of mine for gold, 82% average for gold oxide ore), competitive power costs and robust mining contractor costs
- Initial Capex less than \$130M (including 10% contingency) and Life of Mine Capex total is \$163M
- Results in strong financial outcomes with 50% IRR, US\$254m NPV(5) and an after tax payback from first production of 1.9 years (assumes \$1250/oz gold and \$15/oz silver at a post-tax discount rate of 5%)
- Project is fully financed and all major government permits are in place, including; Environmental and Social (known as AMDAL) and Forestry Use (known as the Pinjam Pakai)
- Construction is progressing well and first gold pour is expected in late Q4 2016

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\* Refer Competent Person's Statement on [www.merdekakoppergold.com](http://www.merdekakoppergold.com)

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# Mineral Resource & Ore Reserve Estimates

## Resource & Reserve Estimates



- The Tujuh Bukit Oxide deposits are classified as High Sulphidation Epithermal (HSE) type containing economic accumulations of gold and silver.
- They are related to, but spatially independent of the underlying Tujuh Bukit Porphyry Copper Gold deposit, which has an Inferred Resource estimate of 1.9Bt @ 0.5% copper and 0.5g/t gold.\*

Classification	Tonnes (MT)	Gold (g/t)	Silver (g/t)	Gold (koz)	Silver (Moz)
Measured	42	0.93	29	1,260	39
Indicated	29	0.61	23	570	21
Inferred	18	0.65	24	370	14
<b>Total</b>	<b>89</b>	<b>0.77</b>	<b>26</b>	<b>2,200</b>	<b>74</b>

**Tujuh Bukit Oxide Mineral Resource Estimates  
(0.3g/t Au cut-off grade)**

H&S Consultants, February 2015

Classification	Tonnes (MT)	Gold (g/t)	Silver (g/t)	Gold (koz)	Silver (Moz)
Proved	28	0.96	22	850	20
Probable	8	0.75	17	200	4
<b>Total</b>	<b>36</b>	<b>0.91</b>	<b>21</b>	<b>1,050</b>	<b>24</b>

**Tujuh Bukit Oxide Ore Reserve Estimates  
(0.2g/t Au cut-off grade)**

CSA Global, October 2015

\* Refer Competent Person's Statement on [www.merdekacoppergold.com](http://www.merdekacoppergold.com)

# Mineral Resource & Ore Reserve Estimates

## Tujuh Bukit Oxide Physicals by Pit



Table below will show the details the Ore Reserve into each of the 5 planned open pits

Pit	Ore (Mt)	Gold (g/t)	Silver (g/t)	Waste (Mt)	Strip Ratio
A	18.0	0.8	16	5.6	0.3
B East	1.0	2.8	2.3	2.9	2.9
B West	5.7	1.3	17	6.0	1.1
C	9.7	0.7	35	6.6	0.7
E	1.3	1.20	14	1.0	0.7
<b>Total</b>	<b>35.7</b>	<b>0.9</b>	<b>21</b>	<b>22.1</b>	<b>0.6</b>



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# Capital & Operating Costs

## Capital Costs



Item	US\$ Million
Pre-Production Direct Capital	87.0
Owners Costs	30.9
Contingency	11.8
<b>Total Initial Capital</b>	<b>129.7</b>
Sustaining Capital	30.2
Contingency	3.0
<b>Total Sustaining Capital</b>	<b>33.2</b>
<b>Total Project Capital</b>	<b>162.9</b>

### Capital Cost Summary

Initial Project capital costs including owner's costs and a 10% contingency are estimated at US\$129.7 million.

Life of Mine (LOM) Project capital costs are estimated at US\$162.9 million.

The Pre-Production Direct Capital Summary are estimated at US\$87 million.

Capital Item	Cost US\$ Million
Initial Infrastructure	9.3
Roads, Dams, Camps	13.0
Pre-Mining Opex & First Fills	11.3
Crushing (P100@75mm)	8.7
Agglomeration & Water	4.7
Heap Leach Pad & Ponds	11.2
ADR Plant & Other Infrastructure	21.1
Power Supply & Distribution	7.7
<b>Total Pre-Production Capital</b>	<b>87.0</b>

### Pre-Production Direct Capital Summary

# Capital & Operating Costs

## Operating Costs



- Life of mine operating costs are projected to total US\$410 million being equivalent to US\$ 488 per ounce (recovered, before silver credits) or US\$ 11.46 per tonne ore placed on the leach pad.
- Operating costs incurred prior to the start of mining have been capitalised.

	US\$M Operating	per BCM mined (ore+waste)	per t mined (ore+waste)	per t ore	per oz Au *
MINE	189	7.11	3.25	5.27	224.52
PROCESSING	151	5.69	2.60	4.22	179.72
ADMINISTRATION	44	1.64	0.75	1.22	51.87
NON PRODUCTION	27	1.01	0.46	0.75	31.84
<b>TOTAL OPERATING COST</b>	<b>410</b>	<b>15.46</b>	<b>7.06</b>	<b>11.46</b>	<b>487.95</b>

\* Note: does not include silver by-product credits

### Operating Costs - Life of Mine

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# Infrastructure & Facilities

## Key Areas of Infrastructure

### ORE PREPARATION PLANT (OPP)

- OPP has been selected in a location outside the blast zone and adjacent to the Mine Haul Road. The OPP consolidates infrastructure into a common area to minimise trucking and rehandle and to take advantage of the site topography. The following infrastructure is consolidated in the OPP:
  - ROM Pad;
  - Two stage crushing circuit and screens;
  - Drum agglomeration circuit including radial stacker, agglomerate stockpile and load-out facility; and
  - Support buildings.

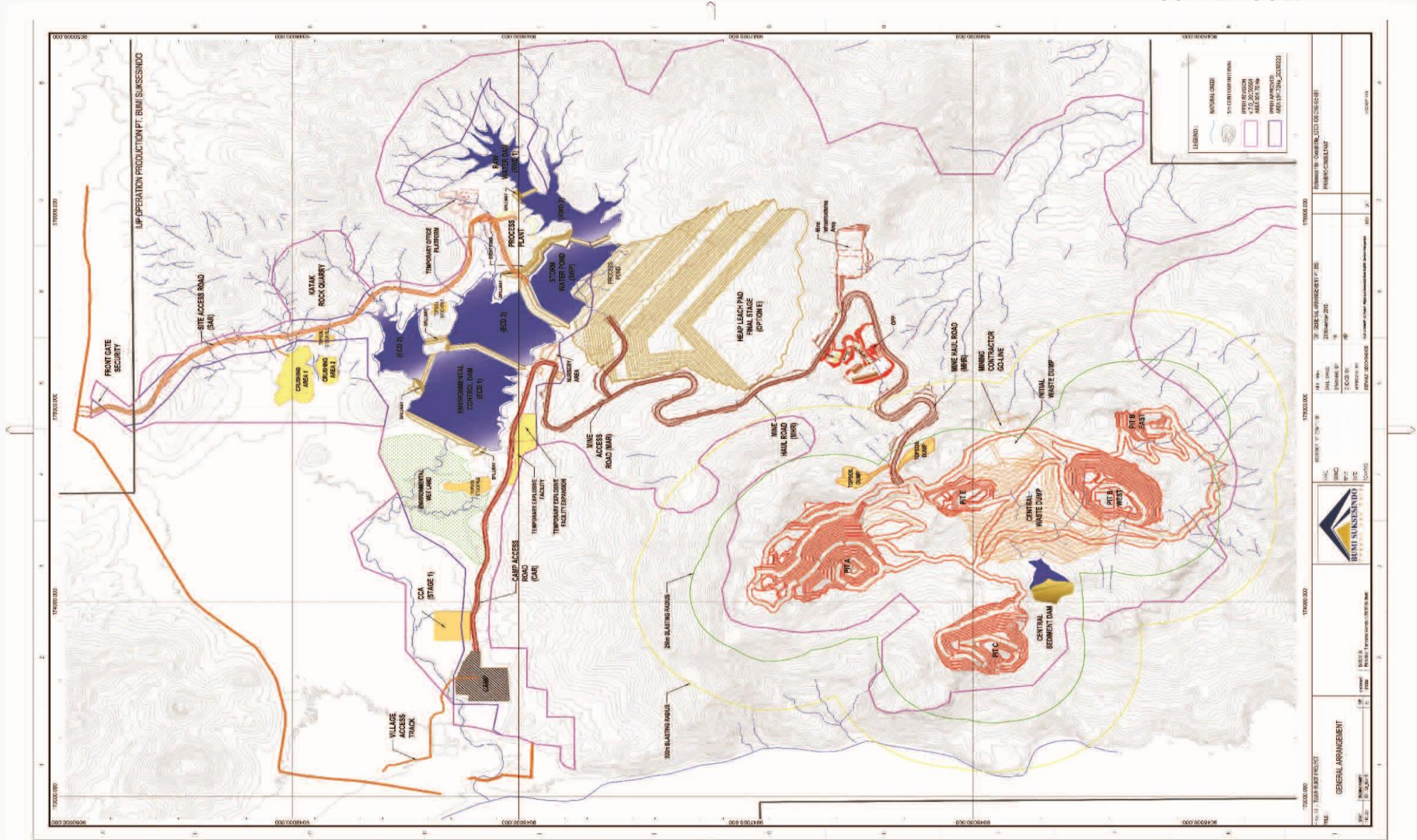
### HEAP LEACH FACILITIES

- The Heap Leach Facility (HLF) layout includes:
  - heap leach pad;
  - pregnant pond
  - ILS pond;
  - stormwater pond
  - raw water dams; and
  - environmental control dams.

### POWER SUPPLY

- Government Electricity Company (Perusahaan Listrik Negara - PLN) maintains an integrated 500 KV supply and transmission network across Java. A 150 KV substation is located at Genteng approximately 36 km from the Project.
- A dedicated PLN GARDU (substation) will be installed at the junction of the public road and the Project's SAR (Site Access Road).
- The company will also install dedicated switchgear in this vicinity with the onsite 20kV overhead line commencing at this point and distributing to the various Project facilities such as the Process Plant, the OPP, Dams, MIA, Magazines, and Camp.
- Purchase and installation of a refurbished or new diesel fired generator, as backup to the PLN 20kV power supply, are required. The generator will only supply backup power for the operation of the process plant (including Detox), heap leach pad and ponds, and dams for continuity of operations especially during the wet season.

# Infrastructure & Facilities Project General Arrangement Diagram



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# Metallurgy & Ore Processing

## Gold & Silver Extractions



- Gold extraction from the ore types at Tujuh Bukit have been shown to be relatively insensitive to crush size in bottle roll and column leach test-work up to a crush size of 75mm. The selected process option consists of:
  - Two-stage open circuit crushing to a P100 of ~75mm;
  - Cement agglomeration; and
  - Truck stacking.
- Table below presents the ranges of expected gold and silver recoveries for oxide and transition ores for the selected process option. It should be noted that the Pit E oxide ore and some of the deeper, more silicified Pit A ores are not expected to leach quite as well as the rest of the ores at the selected crush size distribution.

Ore Type	Gold Extraction Range			Silver Extraction Range		
	Lower	Upper	Economic Average	Lower	Upper	Economic Average
<b>Oxide</b>	77.0	91.0	82.5	3.0	26.0	12.0
<b>Transition</b>	40.0	59.0	50.0	5.0	45.0	16.0

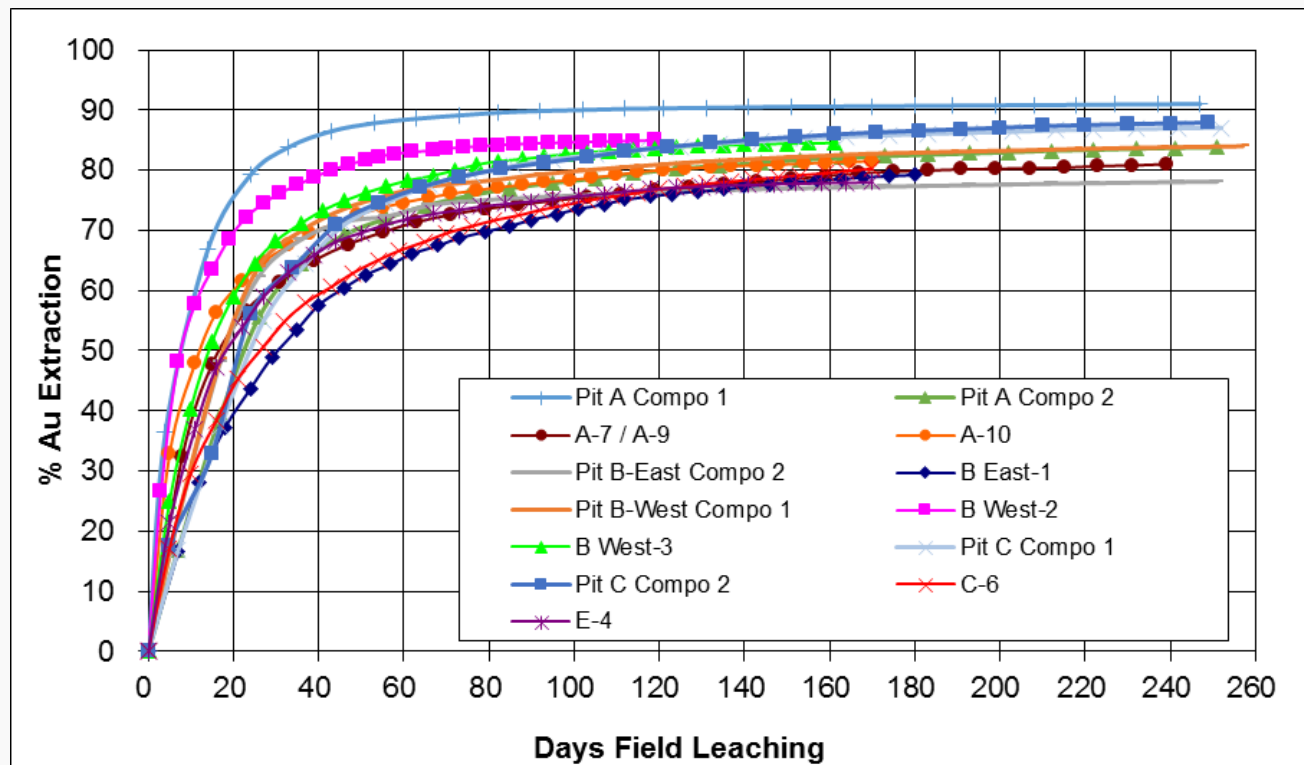
**Expected Gold and Silver Extractions at P100 75mm Size**



# Metallurgy & Ore Processing

## Expected Field Leach Performance

Figure below presents expected field leach performance employing a simple open circuit crushing plant (P100 ~75mm). Leach kinetics indicate 50% to 80% extraction of gold from oxide ores in 30 days of field leaching, or over 75% of final extraction within this time frame.



Range of Expected Field Leach Curves for Oxide Ores at P100 75mm Crush Size

# Metallurgy & Ore Processing

## Expected Reagent Consumptions



The expected reagent consumptions for the Tujuh Bukit oxide and transition ores at the two size distributions evaluated are presented in Table below.

Ore Type	NaCN, kg/t			Hydrated Lime, kg/t			Cement, kg/t		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
Oxide	0.20	0.60	0.35	0.01	0.04	0.02	3.0	8.0	4.5
Transition	0.40	1.20	0.70	0.05	0.20	0.10	3.0	6.0	3.5

### Projected Gold Extraction by Orebody at 75mm Size

# Metallurgy & Ore Processing Report

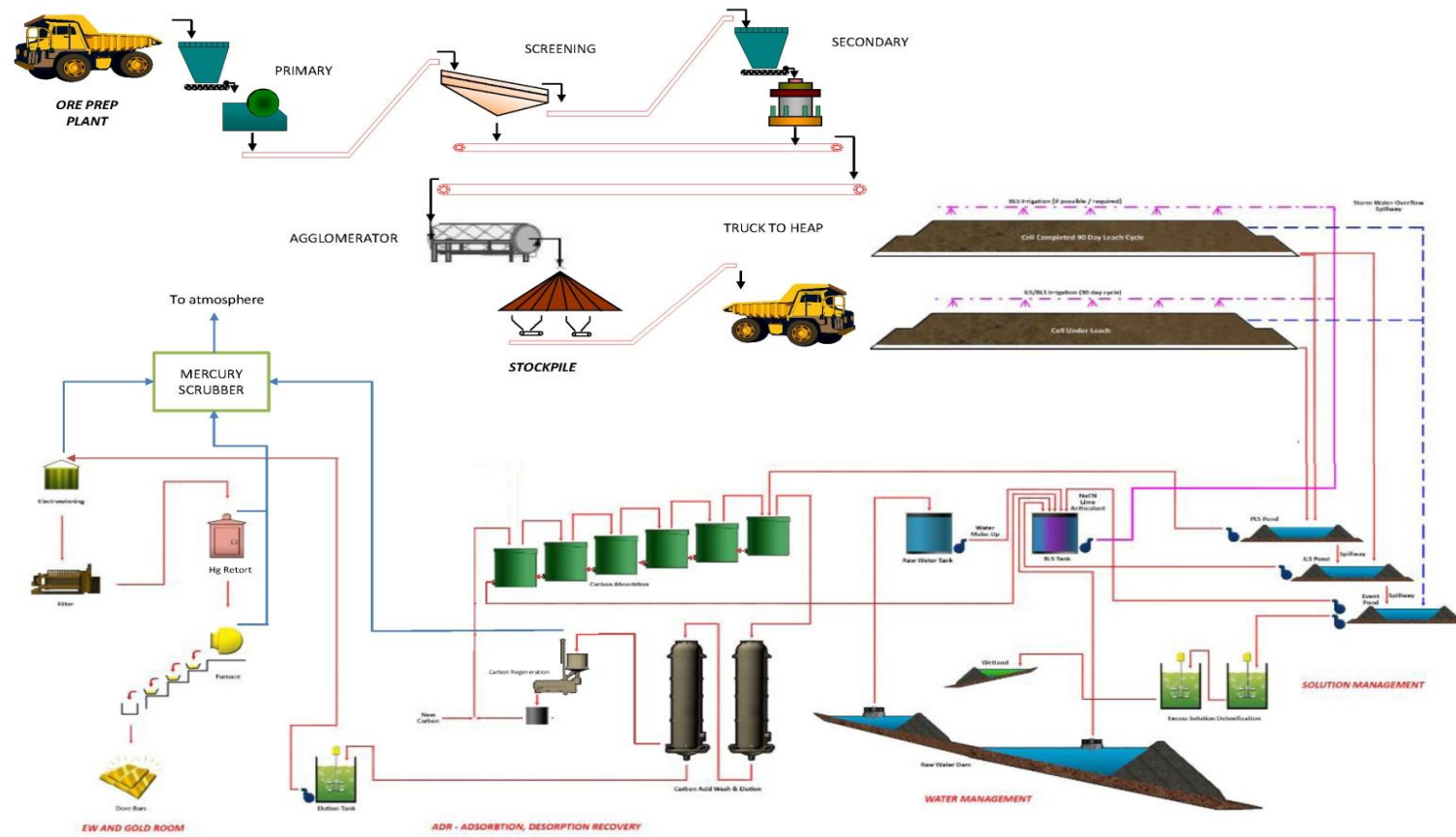
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- The plant and project design processing rate is 4.0 million tonnes per annum (Mtpa) of oxide and transition ore over a 9-year project life for a total leach pad capacity approaching 36 Mt of gold and silver ore stacked by truck.
- The ore will be stacked in nominal 10m lifts, with cell widths between approximately 50m to 70m. Cells will be irrigated using a repetitive 7m x 7m irrigation pattern over a 75-day primary (oxide and transition) leach cycle using Intermediate Leach Solution (ILS), with a further 75-day (105-day for sulphide) period of secondary leaching with Barren Leach Solution (BLS) under the same irrigation pattern before the next lift is stacked over. The leachate solution will percolate through the ore before sub-grade collection and drain via flumes to either the (low gold grade) ILS pond or (high gold grade) Pregnant Leach Solution (PLS) pond. PLS solution is then pumped to the Adsorption Desorption Refining (ADR) process plant for gold and silver recovery.
- Gold and silver doré will be recovered from solution using conventional split AARL elution/electrowinning and smelting technology. Dore gold will be consolidated on-site for shipment to Jakarta for refining at PT Logam Mulia Smelting and Refinery at Pulo Gadung, East Jakarta.
- During high rainfall events, leach pad diversion drainage and excess PLS and ILS leach solution will be captured and stored in the stormwater pond. The diluted leachate solution in the stormwater pond will contain levels of cyanide, arsenic and various other dissolved metals above the nominated discharge limits. Excess water will be treated to remove cyanide and metals prior to offsite discharge.

# Metallurgy & Ore Processing

## Flow Sheet for Heap Leaching



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# Financial Evaluation

- The financial viability of the Tujuh Bukit Heap Leach Project has been assessed using the Discounted Cash Flow (DCF) methodology which considers project cash-flows and the time-value of money.
- The cash flows are based on constant dollar assumptions for costs and revenues and a long term gold price of \$1,250 per oz. Cash flows are calculated on an after tax basis and discounted at a rate of 5%.
- The model is unleveraged with all outputs in US dollars.
- Gold and silver pricing used in the latest financial evaluation were US\$ 1,250/oz and US\$ 15/oz.
- Results of the DCF analysis are outlined in Table below and confirm that the Project is very robust.

	US\$ million
<b>Sales Revenue</b>	1,043.9
<b>Operating Costs</b>	-409.7
<b>Capital expenditure</b>	-162.9
<b>Tax Paid</b>	-123.6
<b>LOM Project Cashflow</b>	350.5
<b>Average Annual Free Cashflow (in production)</b>	46.9
<b>NPV (5%)</b>	254.3
<b>IRR</b>	50%
<b>Return On Net Assets</b>	46%
<b>Payback from First Production</b>	1.9 years

## DCF Analysis Summary



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